

Assessment of Level of Computer Science Competencies Possessed By University Computer Education Students in Anambra State

Enemuo Chinwe Juliana¹, Ezeanyi, Benson Chukwunonso²,
Uchenna, Nwigwe Ngwu³

¹Department of Science Education Nnamdi Azikiwe University, Awka

²Department of Science Education Nnamdi Azikiwe University, AWKA

³Department of Science Education Ebonyi State University Abakaliki, Ebonyi State

Corresponding Author: Enemuo Chinwe Juliana

Abstract: This study sought to assess the performance of University Computer Education Students in computer operation competencies. A total of one hundred and twenty computer education students of the university. No sampling was made. A descriptive survey design was adopted three research questions and one hypothesis guided the study. A researcher -constructed questionnaire was used to obtain responses from the subjects. The reliability of the study was determined using Cronbach Alphas Formular and a reliability coefficient of 0.78. In the analysis of data, mean and standard deviation while the t-test statistics was used to test the hypotheses at 0.05 level of significant. The data analysis revealed that university computer education are highly knowledgeable in using Microsoft Word and Electronic spread sheet. There is low level of competent in the use of Internet resources. Students in the university do not consider internet operation as part of computer competency. It was therefore recommends among others things; the Federal Ministry of Education should regularly organize seminars, workshops and conferences in schools to sensitize teachers on the best strategies and practices of using computer software and other Internet facilities. Government should provide adequately ICT facilities for hands on and mind on activities such as computers and its accessories, electricity/standby generators, internet and World Wide Web connections among others.

Key words: Assessment, computer competencies, computer education, students

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I. Introduction

Today's fast-paced world is becoming increasingly characterized by technology-driven communication which has transformed the world into a large global connected community with ever-increasing outreach of Information and Communication Technology (ICT). ICT refers to the range of technologies that are applied in the process of collecting, storing, editing, retrieving, and transferring of information in various forms Olakulehin, (2007). Federal Ministry of Education (FME)(2010) defined ICT as encompassing all equipment and tools (inclusive of traditional technologies of radio, video, and television to the newer technologies of computers. Students in institutions of higher learning are expected to have good sound knowledge of computer appreciation to be able to cope with the modern information. Information and communication technology has changed teacher dominated classroom or face to face interaction experienced in the education system. Learners now participate actively in maximizing their learning experiences. The ICTs have made teaching and learning to go beyond the classroom setting by not restricting the learning process to talk-chalk method of teaching.

Wikianswer (2015) defined computer as a tool use to acquire the basic computer knowledge, ideas, skills and other competencies so as to understand the basic terminologies, weaknesses of computers, potentialities of computers and how computers can be used to solve everyday problem. Adeyinka and Mutala (2008) described computer literacy as knowing some basics using the computer, for example, to save and open a file, use a word processing program, send and receive e-mail just to mention a few. It means having some sort of level of comfort around computers rather than having some fear or a feeling of fording. According to Olaitan (2009), to be competent means that the individual has acquired the knowledge, skills, attitude and judgment which he requires in order to perform successfully at a specified proficiency level in any given work. The term computer competency is often used as a basis of making decisions regarding student's ability to perform specific tasks on a computer system (Lahore, 2008). Computer competency is important because it transforms the computer roles into proficient and productive activities, Simonson and Maurer (2010). Austin (2007) defined computer education as one who must be capable of handling a computer system and application software

embedded on it. The role of computer knowledge in the life of an average Nigerian student cannot be underestimated. A computer educationist is expected to have excellent typing, shorthand and having been advanced to this level, may utilize those skills primarily for personnel convenience on the job.

According to Joana (2008), Assessment is the wide variety of methods or tools that teachers use to evaluate measure and document the academic readiness, learning progress, skill acquisition or educational needs of students. Assessing a student involves taking a sample of what the students can perform and about a students' capability. There are many reasons for assessment.

- identification of what a students should know
- identification of students special need
- determination of appropriate placement
- Selection of appropriate curricula to meet students individual needs.

Therefore students will be assessed using the following computer competencies which include;

- Microsoft word operation- which is an act of writing, typing a document
- Electronic spread sheet operation-database organized collection of data
- Internet operation- global system of Interconnected mainframes and personal computer

Statement of the problem.

According to Jegede and Owolabi (2008), computer education is still limited in Anambra School system, It is scarcely offered in any of the state secondary schools, which constitutes more than 80% of Anambra schools. Though some private secondary schools in Anambra have introduced computer instruction into their school system, the number of schools that offered computer education is negligible compared to the general schools' population. In the Universities, Computer studies are taught as part of their academic programmes, most of them are still theoretical in nature to impact meaningfully on the society, thus, giving most computer education students graduates overdose of theoretical knowledge, which does not match well with the demands of workplace practice. The personal observations of the researcher shows that, fresh students in computer education demonstrate low level of performance in practical aspect of computer. This poor performance may well be a reflection of low acquisition of computer skills at the Primary and secondary school level of education. Most students at the secondary school, include computer science to make up the nine subjects offered in the senior secondary school certificate examinations. This poor state of affairs ought to be corrected in the process of teaching computer science in Bachelor's degree, It is therefore important to determine whether the change have taken place before they graduate from school.

The purpose of the study is to assess the level of computer science competencies possessed by university computer education students in carrying out the following activities: Microsoft word, Electronic Spread Sheet and Internet resources.

Research questions

In order to guide the study, the following research questions were formulated:

- (i) To what extent can computer education students use Microsoft word.
- (ii) How competent are computer educations students in using electronic spread sheet
- (iii) To what extent can computer education students use Internet operation.

Hypotheses

H₀₁: There is no significant different between the mean score of computer competencies possessed by university computer education student in the use of Micro soft word, excel and internet resources.

II. Methodology

The design adopted for this research is survey method which aims at assessing the level of computer competencies possessed by university computer education students in Anambra state. According to Abonyi, Okereke, Omebe and Anugwo (2006) a survey research is a way of obtaining facts and figures from systematically selected segments of a population with the purpose of ascertaining the general characteristics of the population. The study was conducted using questionnaire designed to be descriptive. The total population of the study comprises of one hundred (120) computer education students. 40 from ChukwuemekaOdumegwuOjukwu University, 80 from NnamdiAzikiwe University. For the purpose of data collection, a twenty four (24) items on computer competency questionnaire was designed. Copies of the questionnaire were given to the students in their various schools. They were asked to complete the questionnaire using a scale from; strongly Agree, Agree, Disagree and Strongly Disagree. The data was analyzed using mean and standard deviation.

III. Results

Table 1: Mean ratings assessment of Students computer competencies in the use of Microsoft word.

S/N	Tasks in word processing	SA	A	D	SD	MEAN	ST. DEV	DECISION
1	Ability to open application in computer system	50 1.67	40 1.0	25 0.45	5 0.04	3.13	0.88	Agree
2	Ability to create a new brand document	57 1.9	37 0.93	16 0.27	10 0.08	3.18	0.95	Agree
3	Ability to open an existing document	48 1.6	40 1.0	18 0.3	14 0.12	3.02	1.01	Agree
4	Ability to edit an existing document	65 2.17	30 0.75	10 0.17	15 0.13	3.20	1.04	Agree
5	Ability to save a document	40 1.33	40 1.0	30 0.5	10 0.08	2.92	0.95	Agree
6	Ability to print a documents	75 2.5	20 0.5	10 0.17	15 0.13	3.29	1.06	Agree
7	Ability to format documents	82 2.73	25 0.63	03 0.05	10 0.08	3.49	0.89	Agree
8	Ability to close a document	66 2.2	30 0.75	15 0.25	9 0.075	3.28	0.95	Agree
Grand Mean and Standard Deviation						3.19	0.97	

Response from the table 1 indicates that the mean rating of all the items 1-8 were above 2.50; therefore they were all accepted to be competent required by university computer education in using Microsoft word. Their respective standard deviation is: 0.88, 0.95, 1.01, 1.04, 0.95, 1.06, 0.89, and 0.95,

Table 2: Table 1: Mean ratings assessment of Students computer competencies in the use of Electronic spread sheet.

S/N	Tasks in Electronic Spread sheet	SA	A	D	SD	MEAN	ST. DEV	DECISION
9	Ability to open and close an application in computer system	73 2.43	32 0.8	10 0.17	5 0.04	3.44	0.81	Agree
10	Ability to calculate figures	60 2.0	50 1.25	4 0.07	6 0.05	3.37	0.78	Agree
11	Ability to sort files, in ascending order.	88 2.93	23 0.58	7 0.12	2 0.02	3.65	0.67	Agree
12	Ability to print a document	59 1.97	38 0.05	15 0.25	8 0.07	3.24	0.91	Agree
13	Ability to format a document in spread sheet	25 0.83	48 1.2	27 0.45	20 0.17	2.65	0.99	Agree
14	Ability to save a document	75 2.5	25 0.6	16 0.27	4 0.03	3.43	0.84	Agree
15	Ability to create a graph	58 1.93	39 0.98	14 0.23	9 0.08	3.22	0.92	Agree
16	Ability to correct grammars in a document	63 2.1	35 0.88	12 0.2	10 0.08	3.16	0.95	Agree
Grand Mean and Standard Deviation						3.28	0.85	

Response from the table 2 indicates that the mean ratings of items 9,10, 11, 12, 13, 14, 15, and 16 with mean rating of 3.44, 3.37, 3.65, 3.24, 2.65, 3.43, 3.22, 3.16 were accepted to be adequate for competencies required of university computer education students in using Electronic spread sheet. Their respective standard deviation is: 0.81, 0.78, 0.67, 0.91, 0.99, 0.84, 0.92, and 0.95

Table 3: Table 1: Mean ratings assessment of Students computer competencies in the use of Internet operation.

S/N	Tasks in Internet resources	SA	A	D	SD	MEAN	ST. DEV	DECISION
17	Ability to move from websites to another	30 1.0	28 0.7	47 0.78	15 0.13	2.61	0.99	Agree
18	Ability to make use of bookmarks	7 0.23	4 0.1	44 0.73	65 0.54	1.60	0.81	Disagree
19	Ability to down load files	5 0.17	25 0.63	23 0.38	67 0.56	1.73	0.93	Disagree
20	Ability to download audio files	2 0.06	4 0.1	29 0.48	85 0.70	1.35	0.63	Disagree
21	Ability to create a web page	0 0	5 0.13	43 0.72	72 0.6	1.44	0.58	Disagree
22	Ability to connect to the internet	13 0.43	22 0.55	34 0.57	51 0.43	1.98	1.02	Disagree
23	Ability to copy file from the internet	0	0	38	82	1.32	0.47	Disagree

		0	0	0.63	0.69			
24	Ability to save downloaded files from the web	10	28	37	45	2.02	0.97	Disagree
	Grand Mean and Standard Deviation	1.76			0.8			

Table 3 revealed that item 17, is above 2.50; therefore the respondent accepted to be competent in using web browser and moving between web page. Item 18, 19, 20, 21, 22, 23 and 24 with mean rating of 1.60, 1.74, 1.34, 1.45, 1.98, 1.32, and 2.03 revealed low computer competent in using internet resources therefore, were not accepted.

IV. Discussions

Research question 1 showed a grand mean of 3.19, which is greater than the decision rule. This means that the respondents agreed to be competent in using Microsoft word. It is obvious that universities utilize the practical teaching of application software adequately.

Data obtained from research question 2 showed a grand mean of 3.28, is an indication that the computer education students are competent in using electronic spread sheet. The above result is in consonance with that of Ezenwafor (2011) who recorded that the use of spread sheet among computer education students seems to be at a higher level, of competencies

Research question 3 revealed a grand mean of 1.76, expressing the fact that the respondent disagreed in almost all the mean items, thus this indicate inadequate use of internet operation in the university. There is need for proper teaching/training on internet and web browsers, which is the key to educational system in the world at large. Government, through data collected from the use of electronic spread sheet can now provide the necessary infrastructures needed for internet teaching in the universities.

V. Conclusion

Interest of students is developed when proper assessment is used in teaching and learning. The findings of this study revealed that students are competent in the use of Microsoft word and electronic spread sheet than internet operation. Based on the findings in research question 3, there is need for teachers involvement for extensive practical work in the use of electronic spread sheet for the benefit of the students and the society..

VI. Recommendations:

1. The Federal Ministry of Education should regularly organize seminars, workshops and conferences in schools to sensitize teachers on the best strategies and practices of using computer software and other Internet facilities.
2. Government should provide adequately ICT facilities for hands on and mind on activities such as computers and its accessories, electricity/standby generators, internet and World Wide Web connections among others.
3. Schools should try as much as possible to sponsor their teachers to attend seminars, workshops and conferences on the use of internet and computer operation to develop students skills.
4. Students should endeavor to develop themselves to be computer literate and learn about computer to achieve better learning.
5. Parents should endeavor to buy a personal computer to their wards to assist them learn and have the knowledge and skill of ICT in this age of globalization.

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